

AMENDMENT AND LISTING OF CLAIMS

Claim 1 (previously amended). A method of removing more quickly non-cyclic adenine nucleotides consisting of endogenous ATP, ADP and AMP, and endogenous glucose-6-phosphate in a biological sample which comprises treating said sample with effective amounts of apyrase, alkaline phosphatase and adenosine deaminase without 5'-nucleotidase to remove said non-cyclic adenine nucleotide and glucose-6-phosphate.

Claim 2 (previously amended). A method of determining cAMP content or an adenylate cyclase activity in a biological sample comprising the following steps:

Cleaning Reaction: combining a biological sample with effective amounts of apyrase, alkaline phosphatase and adenosine deaminase without 5'-nucleotidase to remove non-cyclic adenine nucleotides consisting of endogenous ATP, ADP and AMP, and endogenous glucose-6-phosphate;

Converting Reaction: enzymatically converting cAMP in the biological sample into AMP; and

Detecting Reaction: determining an amount of AMP without the use of radioactive agents.

Claim 3 (previously amended). The method according to claim 2 wherein, further comprising, in said Cleaning Reaction, combining said biological sample with effective amounts of glucose oxidase, glycogen phosphorylase and alkaline phosphatase so as to enzymatically remove endogenous glycogen from said biological sample.

Claim 4 (original). The method according to claim 2 wherein said Converting Reaction is carried out by combining said biological sample with an effective amount of phosphodiesterase.

Claim 5 (original). The method according to claim 2 wherein an enzyme used in said Converting Reaction of cAMP into AMP is deactivated by a chelating agent after conversion to AMP.

Claim 6 (original). The method according to claim 5 wherein said chelating agent is EDTA.

Claim 7 (currently amended). The method according to claim 2 wherein said Detecting Reaction comprises conversion from glycogen to glucose-1-phosphate by contacting glycogen phosphorylase with glycogen in the presence of inorganic phosphoric acid added to said sample and said conversion is activated *in vitro* by said AMP.

Claim 8 (original). The method according to claim 7 wherein said Detecting Reaction further comprises combining said sample with an effective amount of phosphoglucomutase to convert glucose-1-phosphate into glucose-6-phosphate and then combining said sample with effective amounts of glucose-6-phosphate dehydrogenase to convert glucose-6-phosphate into 6-phosphogluconolactone and NADP⁺ so as to convert glucose-1-phosphate into 6-phosphogluconolactone and NADPH.

Claim 9 (original). The method according to claim 8 wherein said Detecting Reaction further comprises heating up said sample in the presence of water to convert 6-phosphogluconolactone into 6-phosphogluconate and then combining the sample with an effective amount of NADP⁺ to convert 6-phosphogluconate into ribulose-5-phosphate and NADPH.

Claims 10-22 (previously canceled).